NOAA, NATIONAL WEATHER SERVICE, WEATHER FORECAST OFFICE

Miami, Florida 33165

http://weather.gov/southflorida

January was Slightly Cooler than Normal Across South Florida

February 1, 2011: After a record cold December, temperatures moderated a bit in January. However, it was still a cool month relative to normal, with South Florida averaging around 1 degree below normal. The predominant weather pattern in January was similar to that of the record-cold December: a persistent low pressure trough in the mid to upper levels of the atmosphere over the eastern and southern United States and a persistent high pressure region over Northeastern Canada and Greenland (Figure 1). This pattern is characteristic of the "negative" phase of the North Atlantic Oscillation (NAO) which favors cold air intrusions deep into the southeast United States and Florida. The difference between January and December was that the eastern U.S. trough wasn't as strong or deep as in December, limiting the duration and severity of the cold air intrusions. Nevertheless, freezing temperatures were noted west of Lake Okeechobee on the 14th and the 24th, with readings as low as 30 degrees recorded in parts of Glades and northern Hendry counties.

Following are the average January 2011 temperatures and departure from normal for the 4 main climate sites in South Florida:

- **Miami International Airport** had an average January temperature of 68.1 degrees Fahrenheit. This is 1.0 degrees below the 30-year normal for January. The lowest temperature recorded last month was 44 degrees on the 23rd. The highest temperature recorded last month was 85 degrees on the 19th.

- **Palm Beach International Airport** had an average January temperature of 66.2 degrees Fahrenheit. This is 0.7 degrees below the 30-year normal for January. The lowest temperature recorded last month was 41 degrees on the 23rd. The highest temperature recorded last month was 85 degrees on the 20th.

- **Fort Lauderdale/Hollywood International Airport** had an average January temperature of 67.5 degrees Fahrenheit. This is 0.7 degrees below the 30-year normal for January. The lowest temperature

recorded last month was 43 degrees on the 23rd. The highest temperature recorded last month was 84 degrees on the 19th.

- **Naples Municipal Airport** had an average January temperature of 64.3 degrees Fahrenheit. This is 0.7 degrees below the 30-year normal for January. The lowest temperature recorded last month was 37 degrees on the 13th. The highest temperature recorded last month was 82 degrees on the 25th.

PRECIPITATION

In contrast to the past few months which have been quite dry, January was slightly wetter than normal, especially in Miami-Dade County and west of Lake Okeechobee. However, some areas fell short of the normal January rainfall, most notably over portions of Broward and Palm Beach counties (Figure 2). A total of three "storms" affected the Florida peninsula in January, resulting in fairly widespread precipitation across the area. Total January precipitation was in the 2 to 3 inch range over most of South Florida, with the drier areas receiving 1 to 2 inches. Strong wind gusts associated with showers and thunderstorms were noted on the 6th and the 25th. The storms of the 25th produced a small and short-lived tornado in the Boca Raton area.

Despite the rather wet January, all of south Florida remains in moderate to severe drought conditions due to the drier than normal weather observed since last October (Figure 3). As the second table below illustrates, virtually all of South Florida has been running much below normal for rainfall since October 1. Many areas have recorded only 35 to 40 percent of the normal rainfall for that period, making the October 2010 – January 2011 period among the top 10 driest on record at several locations. This dryness is consistent with the La Niña conditions which have been in place since last summer. The January rains over south and central Florida were enough to keep the Lake Okeechobee levels from falling much during January (Figure 4). However, they are still over 2 feet below normal for this time of year.

Below are January rainfall totals and departure from normal in inches for select south Florida locations:

Location	**January 2011 Rainfall**	**January Departure from Normal**
Miami Int'l	2.55	+0.67
Fort Lauderdale Int'l	1.20	- 1.74
Palm Beach Int'l	1.76	- 1.99
Naples Regional	1.50	- 0.51
Miami Beach	2.71	+0.27
Moore Haven	2.66	+0.62
NWS Miami (FIU Main)	3.56	
Muse (Glades Co)	3.52	
Juno Beach	3.48	
The Redland (Dade Co)	3.35	+0.78
Palm Beach Gardens	2.80	
Homestead General Apt	2.71	
Canal Point (Palm Beach)	2.50	-0.10
Hollywood	2.36	+0.07

Brighton Res. (Glades Co)	2.31	
North Miami Beach	2.26	
Immokalee	1.59	
Marco Island	1.55	
Fort Lauderdale Beach	1.47	

Now that we're just past the halfway mark of the dry season, here are the rainfall totals and departures from normal for the period from October 1, 2010 to January 31, 2011:

Location	**Oct 2010 – Jan 2011 Rainfall**	**Oct 2010 – Jan 2011 Departure from Normal and Rank**
Miami Int'l	7.69	-5.99 (16th driest)
Fort Lauderdale Int'l	6.39	-10.21 (6th driest)
Palm Beach Int'l	6.58	-11.32 (4th driest)
Naples Regional	3.61	-5.52 (7th driest)
Miami Beach	9.19	-3.08
Moore Haven	5.65	-2.89
North Miami Beach	10.35	
Juno Beach	9.92	
The Redland (Dade Co)	9.37	-3.59
Hollywood	8.29	-8.03
NWS Miami (FIU Main)	7.34	
Homestead General	7.12	
LaBelle	6.48	-3.23
Marco Island	5.94	
Immokalee	4.52	
Canal Point (Palm Beach)	4.12	-7.41 (3rd driest)

Outlook for February through April

The Climate Prediction Center's (CPC) outlook for February through April calls for drier than normal conditions to continue across South Florida, typical of moderate to strong winter and spring La Niña conditions. This will likely result in further worsening of drought conditions over peninsular South Florida during the remainder of the dry season which typically ends in May. Monitor the NWS Miami Drought Page for continuous updates on precipitation and drought conditions across the area.

Temperatures are currently projected to be near or above normal at least through the first 7 days of February, as the persistently negative NAO pattern appear to be shifting, at least temporarily. Afterward, the potential exists for the NAO and AO (Arctic Oscillation) to return to the negative phase. Therefore, additional cold air intrusions deep into Florida are still possible in mid to late February, and it should be noted that in recent years freezes have occurred in South Florida well into February.

Looking longer-term, CPC is forecasting equal chances of near, above or below normal temperatures through April. Some long-range models suggest near normal temperatures may be the most likely scenario for South Florida. As noted in previous outlooks, however, long-range temperature projections are much harder to pin down than precipitation outlooks.

For the latest weather conditions, forecasts, warnings, advisories and statements, please visit the National Weather Service Miami-South Florida Forecast Office's web site at http://www.weather.gov/southflorida.

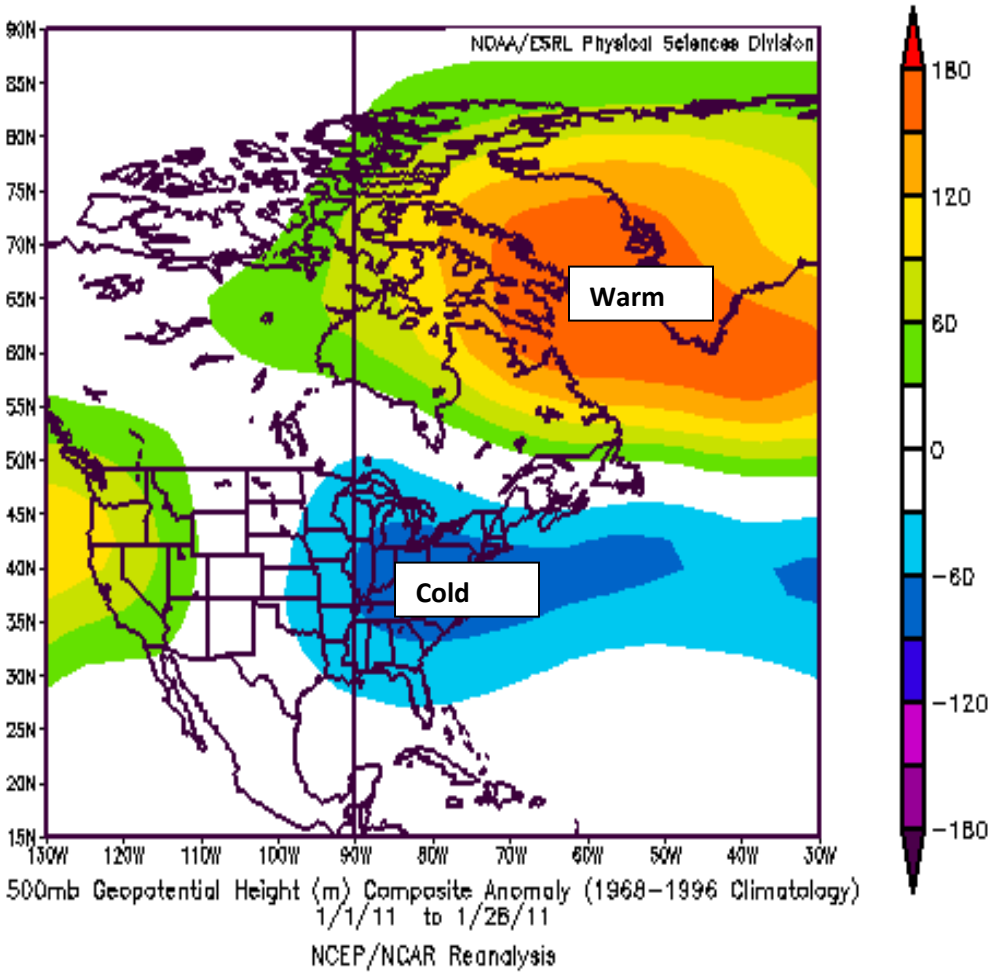

Figure 1: 500 MB Height Anomalies: Jan 1 – Jan 28, 2011. Blue colors over eastern U.S. indicate presence of persistent and strong mid level trough. Warm colors over Greenland and NE Canada indicate presence of "blocking" high pressure. This pattern is similar to the negative phase of the North Atlantic Oscillation pattern which produces colder than normal temperatures across the southeast United States.

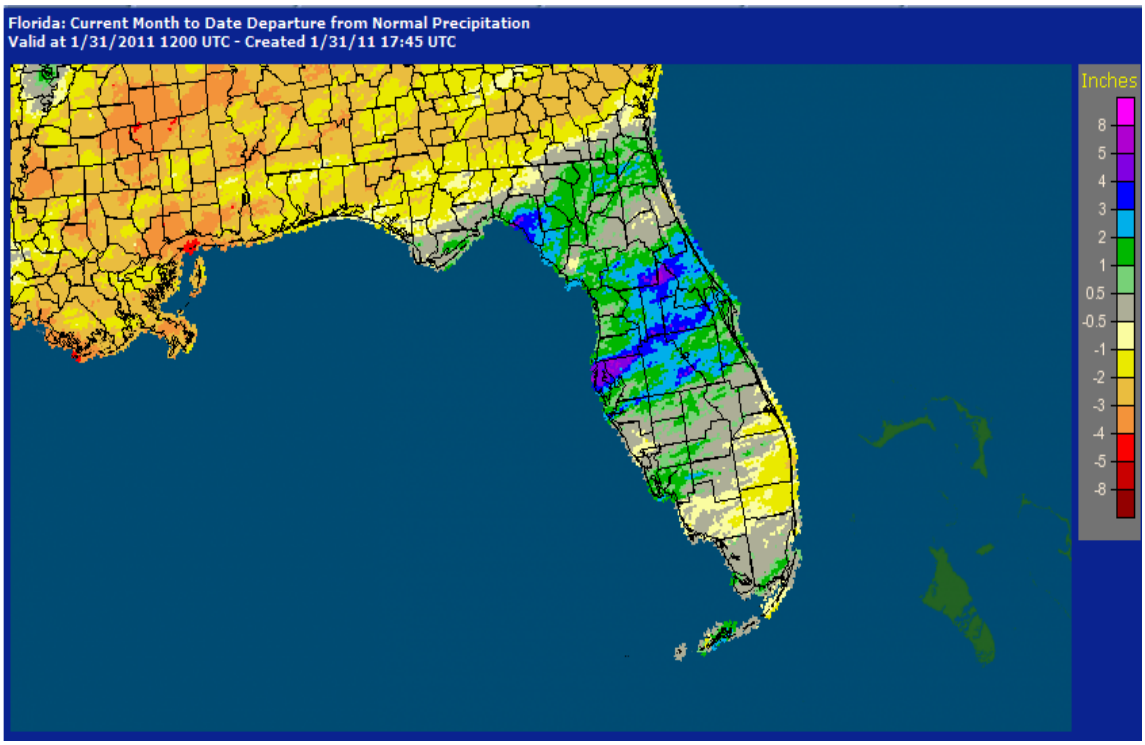

Figure 2: Precipitation departure from normal for January 2011. Yellow colors indicate areas of below normal precipitation. Green areas denote above normal precipitation areas and gray areas were near normal.

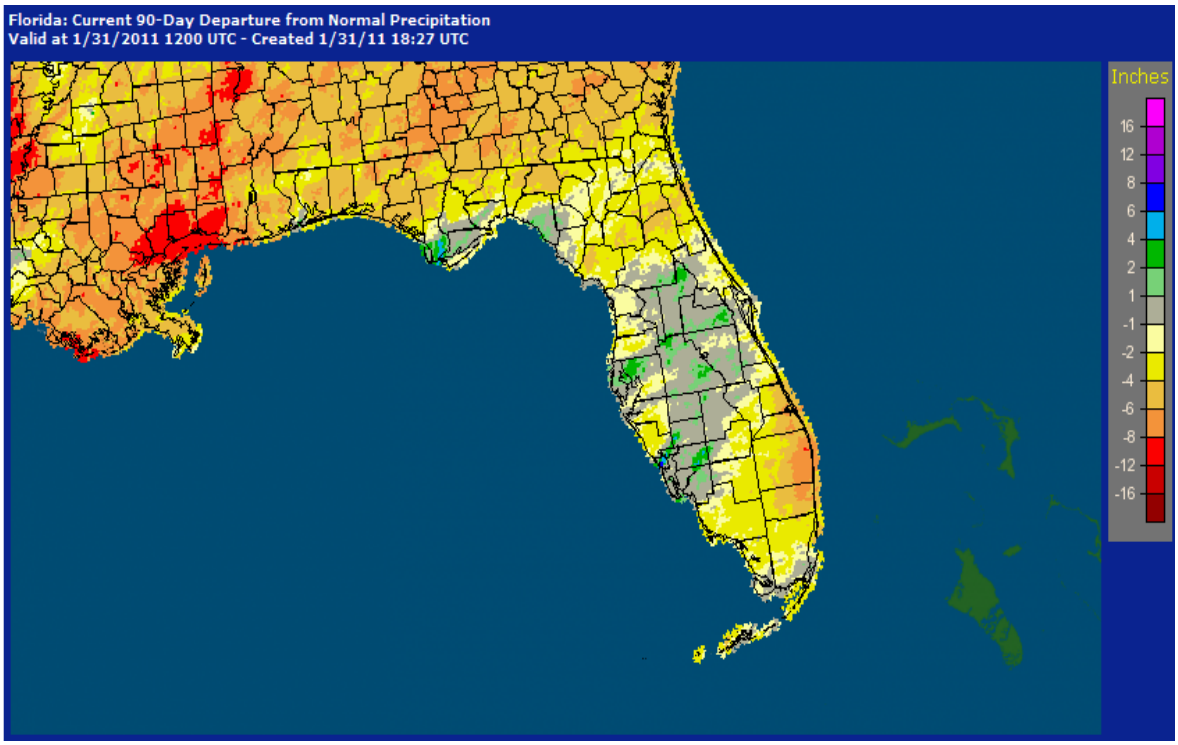

Figure 3: Precipitation departure from normal since November 1, 2010.

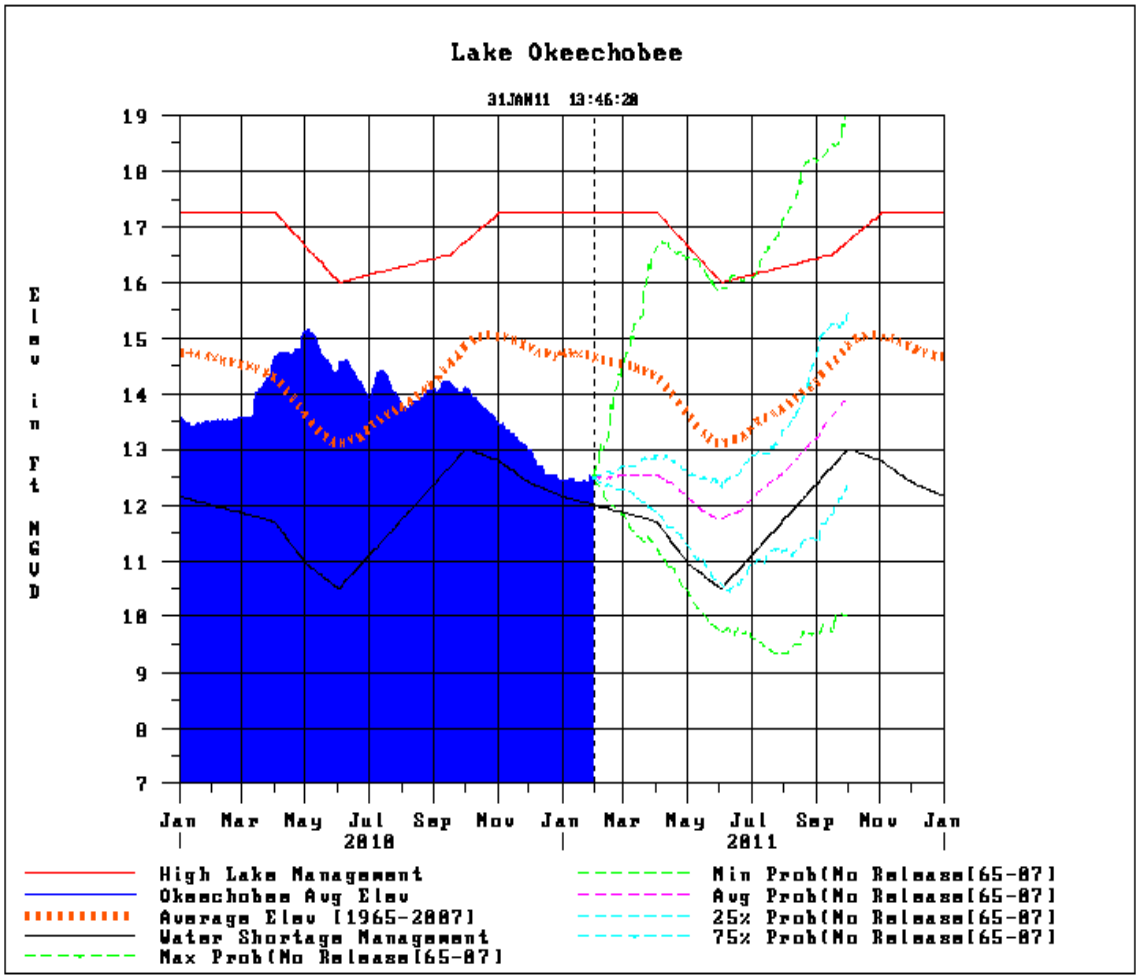

Figure 4: Lake Okeechobee level graphic from Jan 2010 through Jan 2011.